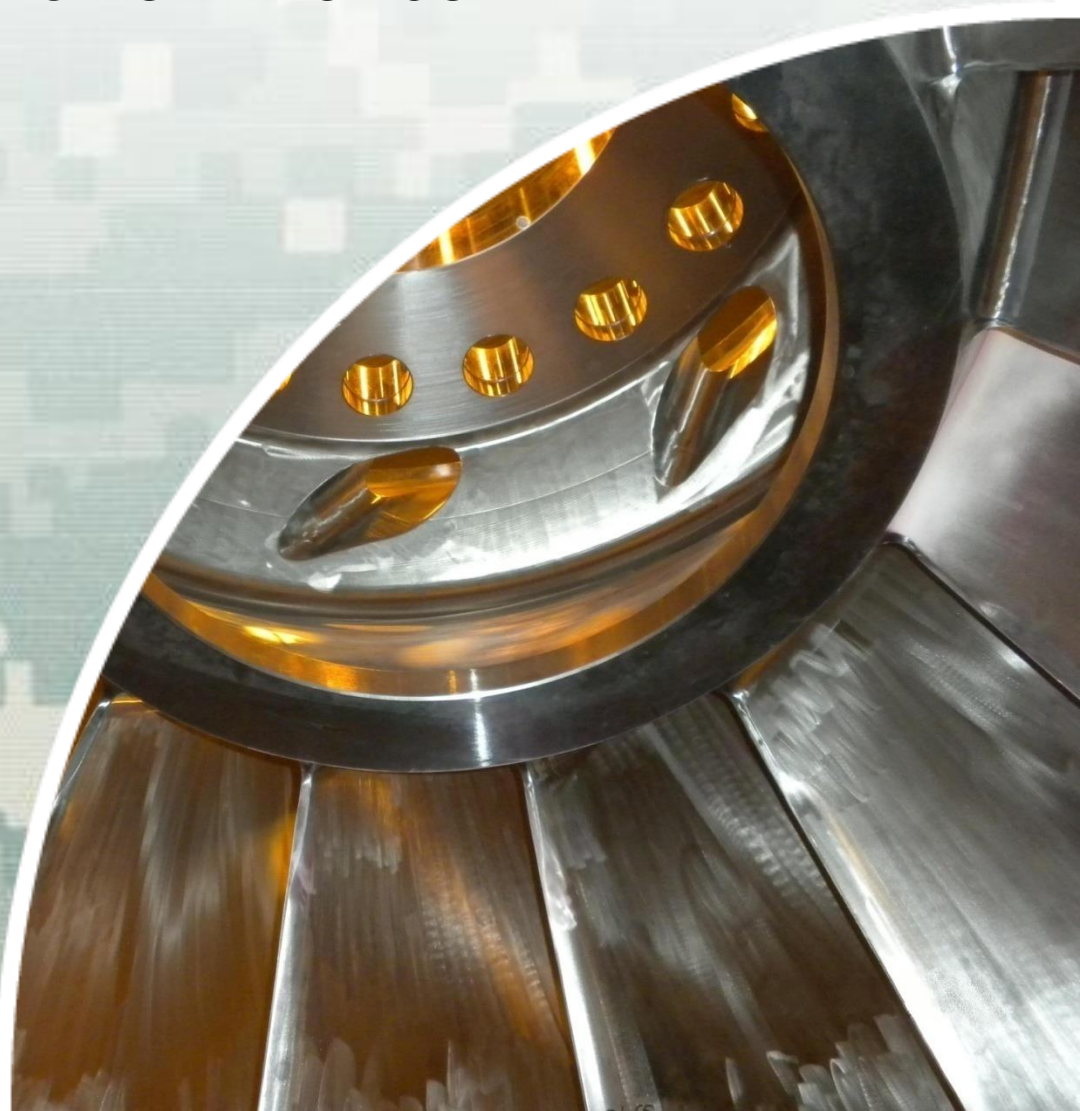


SAD Maintenance Update

Southeastern Federal Power Alliance

17 April 2018

Matthew Dunn, P.E.
U.S. Army Corps of Engineers
South Atlantic Division





Major Maintenance Projects



BUILDING STRONG

Philpott	Switchgear Upgrade	Customer
Philpott	Turbine and Generator Upgrade	Customer
Hartwell	Unit 3 and Unit 4	Customer
Thurmond	MCC and Switchgear Installation	Customer
Thurmond	Unit 4 Thrust Bearing	Appropriated
Savannah	Remote Operations	Customer
Russell	Static Frequency Converter (SFC)	Customer
West Point	Transformer Replacement	Customer
Carters	Rewind	Customer
Carters	Reversing Switches	Customer
Millers Ferry	Transformers	Appropriated
Allatoona	Fire Restoration	Customer

Trusted Partners Delivering Value, Today and Tomorrow



Philpott Switchgear



BUILDING STRONG

Current status:

- Complete 01-NOV-2017.
- Unit 1 and SS are operational.
- Unit 2 will remain out of service due to turbine problems.



Trusted Partners Delivering Value, Today and Tomorrow



Philpott Turbine & Generator Upgrade



BUILDING STRONG

Scope: \$20M customer funded project to upgrade turbines, rewind generators and replace associated equipment.

Current status:

- 95% of funding received from SEPA.
- Design kick-off meeting conducted AUG-2017.
- HDC Site Assessment, OCT-2017.

Next Steps:

- HDC requested uprate feasibility information from major turbine suppliers.
- HDC provide updated uprate study MAY-2018.
- HDC provide final Plans & Specs JUN-2019.
- Rehab Intake Gates.
- Award Contract FEB-2020.
- Contractor mobilize FEB-2021.





Hartwell Units 3 & 4



BUILDING STRONG

Current status:

- Received report on vibration 16-JUN-2017.
- USACE selected recommended alternative to Reconnect Stator Winding as the most cost effective solution to reduce vibration.
- Task order to implement vibration solution and repairs awarded DEC-2017.
- Contractor mobilized to the site on 03-MAR-2018.
- Contractor de-mobilized on 16-MAR-2018 due to asbestos in the brake area.
- SAS conducting further asbestos testing.
- HDC inspected sole plates and determined Unit 3 damage is cosmetic. Unit 4 repairs are complete. No further sole plate repairs necessary.

Next Steps:

- SAS to issue abatement task order via Environmental IDIQ.
- Unit 3 complete 02-OCT-2018.
- Unit 4 start upon Unit 3 completion.
- Unit 4 complete 21-DEC-2018.





Thurmond MCC & Switchgear Install



BUILDING STRONG

Current status:

- \$4M installation contract using Customer and Appropriated funding.
- AC and DC distribution 95% complete.
- MCCs 95% complete.
- Station Service Switchgear 95% complete.
- Modification issued on 12-OCT-2017 to change location of Switchgear and run feeders between Switchgear and Motor Control Centers (MCC) via accessible cable trays.

Next Steps:

- Expected completion 30-APR-2018.



Trusted Partners Delivering Value, Today and Tomorrow



Thurmond Unit 4 Thrust Bearing



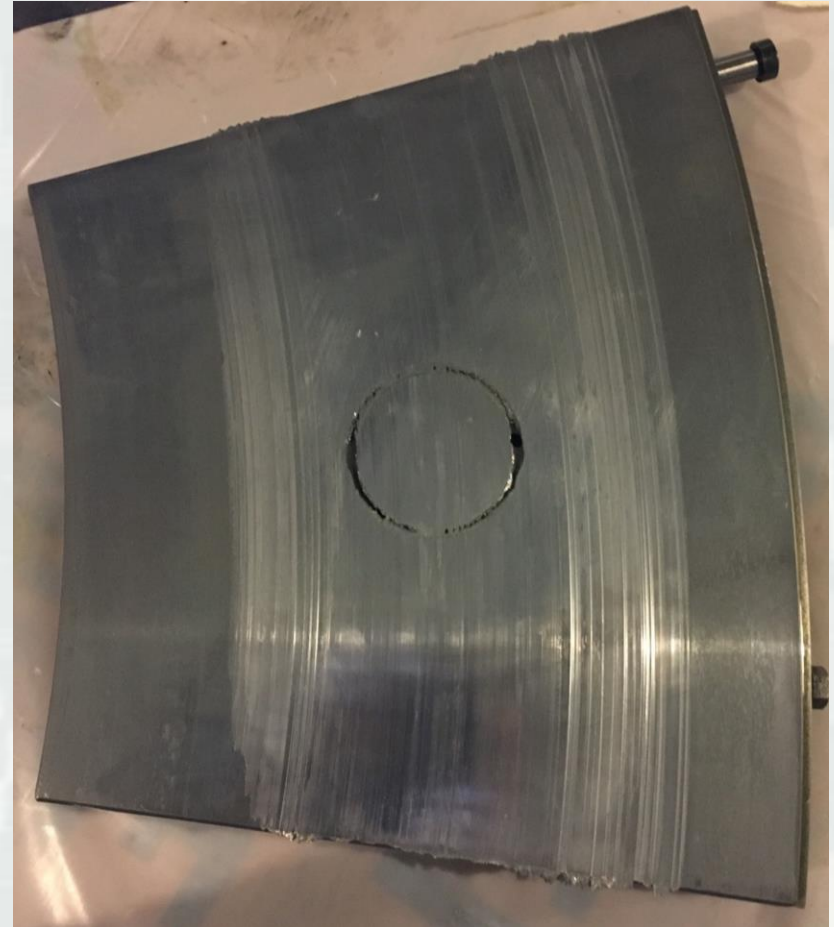
BUILDING STRONG

Current status:

- Out of service on NOV-2017
- Replaced all check valves in HPLS.
- Specification to re-babbitt bearing shoes is complete.

Next Steps:

- Award Contract by 18-APR-2018
- Contractor Work (60 days), Complete 18-JUN-2018.
- USACE Install (14 days), 02-JUL-2018.
- Unit available 03-JUL-2018.





Savannah District Remote Operations



BUILDING STRONG

Scope: \$14.9M Customer Funded project to remotely operate the three Savannah River projects using a distributed operations methodology.

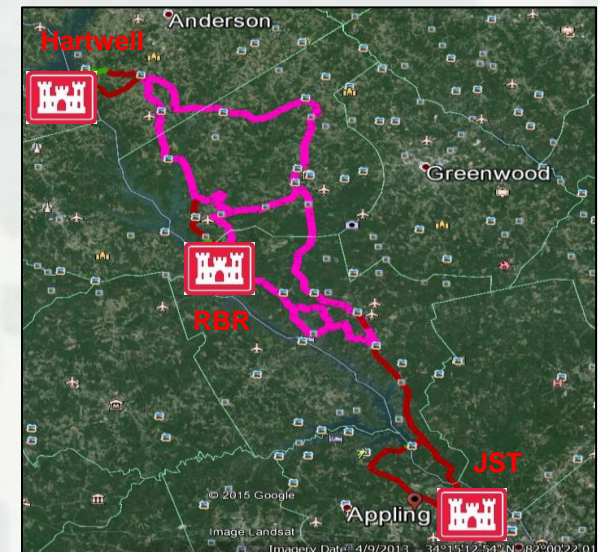
Current status:

- Security System install began 06-JUL-2017 with completion 23-NOV-2018.
- Fiber Install complete SEP-2017.
- Generic Data Acquisition and Control (GDAC) Phase 1 (Plant Control) installation and commissioning completed 01-AUG-2018.



Next Steps:

- Interim Remote Operations Field Testing:
 - OCT- 2017 to APR-2018: Local plant operation, remote monitoring of other plants.
 - MAY-2018 to AUG-2018: Rotating master plant operation. Single plant operates system; remaining plants monitor.
- GDAC Phase 2 (Unit Control): HDC design ongoing. Installation scheduled for 2018 – 2020.
- Staffing: Reduce operations positions from 15 to 9 by 2020 through attrition. Currently at 12.





Russell Static Frequency Converter Disconnect Switch Replacement



BUILDING STRONG

Scope: Replace existing Static Frequency Converter (SFC) disconnect switches with vacuum breakers and repair damages to SFC. \$600K in Customer Funding.

Current status:

- Design of disconnect switch replacement by HDC JUN-2017 to 27-NOV-2017.
- SFC faulted damaging the input disconnect switch and the SFC on 10-JUL-2017.
- Contracted SFC manufacturer, NIDEC Motor Corporation, to assess the damage.

Next Steps:

- Modify the contract with NIDEC Motor Corporation to repair the SFC and replace the disconnect switches.



July 2017 Fault





West Point



BUILDING STRONG

Current status:

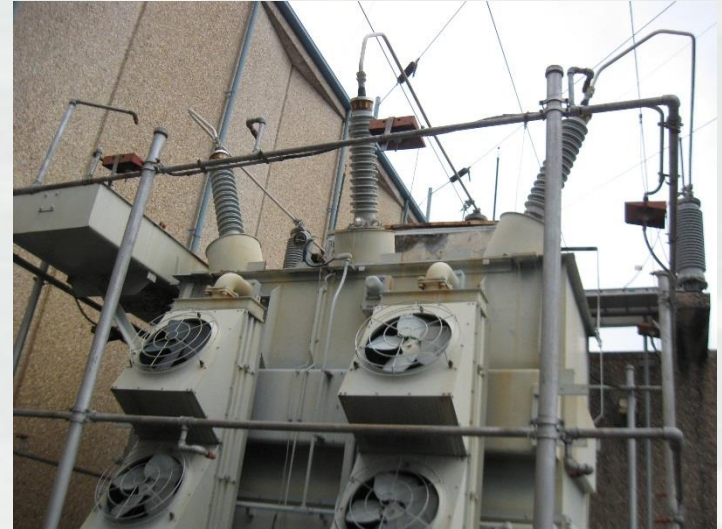
- Installation contract awarded 20-JUL-2016.
- Site work is complete and units are available.
- Replaced U2 & U3 Transformers.
- Reconfigured switchyard to a ring bus.

Next Steps:

- Contract Closeout.

Other Comments:

- Plant is currently limited to a single unit based on stability issue.
- Southern Company expects issue to be resolved SEP-2018.





Carters Rewind



BUILDING STRONG

Current status:

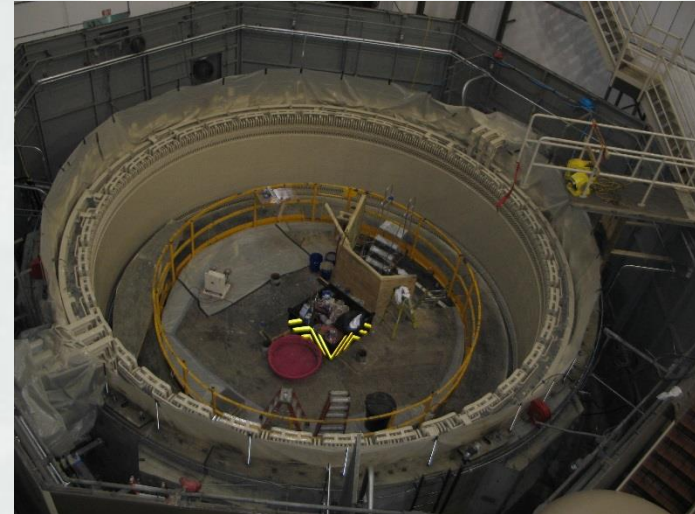
- Unit 4 completed FEB-2017
- Unit 3 reassembly in progress.

Next Steps:

- Commission Unit 3 beginning 10-MAY-2018
- Complete 11-JUN-2018

Other Comments:

- Insufficient head elevation to allow load rejection and temperature testing at uprated load of 183 MVA.
- Temperatures are anticipated to meet the specification at the new rating; load rejection tests at higher heads will provide scroll case pressure data. Operations during the summer months did not require any derating due to winding temperature.





Carters Reversing Switches



BUILDING STRONG

Current status:

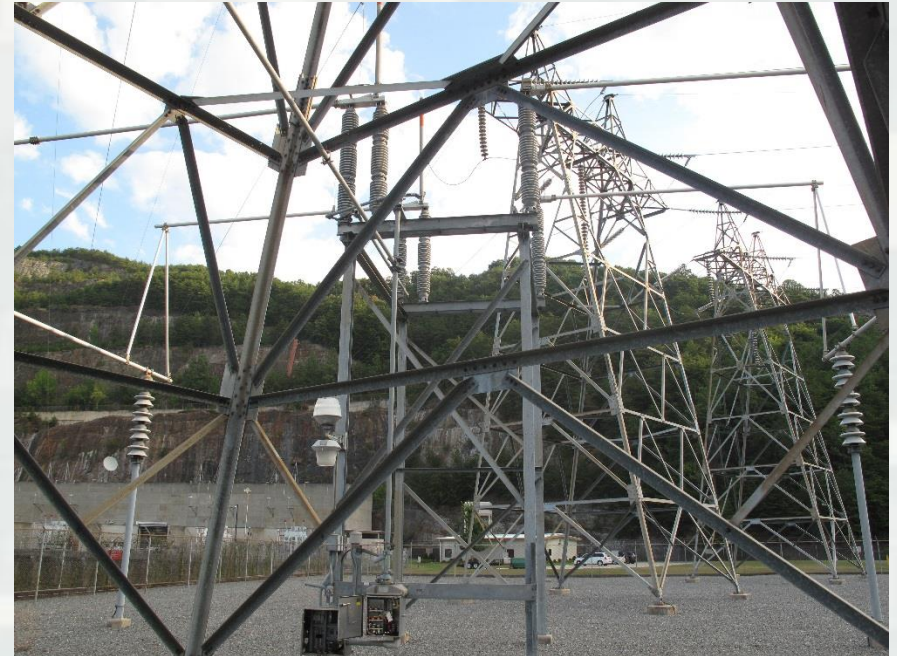
- Contract awarded to NESI.
- Unit 3 complete.
- Contractor issued stop work and demobilized until OCT-2018.

Next Steps:

- Negotiate return to work.

Other Comments:

- Reversing switches are being implemented using 230kV circuit breakers due to the duty cycle of the switches.
- Plan is to install unit #3 equipment during rewind outage then move to unit #4 once unit #3 has returned to service.





Millers Ferry Transformers



BUILDING STRONG

Current status:

- Contract awarded to NESI.
- Contractor on site.
- T2 returned to service FEB-2018.
- T3 returned to service MAR-2018.
- T1 demolition complete.

Next Steps:

- Install T1.
- Complete oil containment site work.

Other Comments:

- Expected project completion OCT-2018.





Allatoona Fire Restoration



BUILDING STRONG

Current status:

- Unit 4 returned to service MAY-2017
- Unit 1 returned to service MAR-2018
- GDACS installation complete.
- Governor installation complete.
- Unit 2 commissioning in progress.

Next Steps:

- Unit 2 return to service 11-MAY-2018.

Other Comments:

- Unit 4 to come out of service for digital governor retrofit MAY-2018.
- Unit 4 governor complete AUG-2018.





BUILDING STRONG

QUESTIONS ?

Trusted Partners Delivering Value, Today and Tomorrow